

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. (Currently amended) An image processing apparatus comprising:
  - a first memory section which stores ~~the image~~ image information given in ~~the page~~ a memory;
  - a micro region recognition section which creates ~~the region~~ a micro recognition signal of the image information simultaneously with storing the image information in the first memory section;
  - a second memory section which stores the ~~region~~ micro recognition signal created by the micro region recognition section in the ~~page~~ memory;
  - a macro region recognition section that carries out layout analysis based on the micro recognition signal;
  - a recognition signal modifying section which reads out and modifies the ~~region~~ micro recognition signal stored in the second memory section based on the layout analysis carried out by the macro region recognition section; and
  - an improved picture quality modifying section which reads out the image information stored in the first memory section and modifies the image information in accordance with the ~~region~~ micro recognition signal modified by the recognition signal modifying section.
2. (Currently amended) The image processing apparatus according to claim 1, wherein the first memory section includes ~~the memory~~ a memory section which compresses the image information and stores the image info in the ~~page~~ memory,
  - and the improved picture quality modifying section, reads out the image information which the first memory section stores, and modifies the image information in compliance with the ~~region~~ micro recognition signal which the recognition signal modifying section ~~modified~~ modifies when the image information is depressed.

3. (Currently amended) The image processing apparatus according to claim 1, wherein the improved picture quality modifying section ~~includes an improved picture quality modifying section which~~ transforms the region micro recognition signal which the second memory section stores into ~~the printing a printing~~ control signal, and reads out and modifies the image information which the first memory section stores in compliance with the printing control signal.

4. (Currently amended) The image processing apparatus according to claim 1, wherein the recognition signal modifying section ~~includes a recognition signal modifying section which~~ reads out the region micro recognition signal which the second memory section stores and modifies the region micro recognition signal at ~~the resolution a resolution~~ different from the resolution of the image information.

5. (Currently amended) The image processing apparatus according to claim 1, wherein the improved picture quality modifying section is an output gray-scale processing section which reads the image information which the first memory section stores and modifies the image information of higher resolution than the resolution of the image information in compliance with the region micro recognition signal which the recognition signal modifying section modified.

6. (Currently amended) The image processing apparatus according to claim 1, wherein the first memory section has a memory first compression section which compresses the image information ~~by the first compression section~~ and stores the image information in the page memory,

and further has ~~the second a second~~ memory compression section which compresses the image information ~~by the second compression section different~~ differently from the first compression section and stores the image information in the page memory.

7. (Currently amended) The image processing apparatus according to claim 1, where the recognition signal modifying section creates ~~the~~ page-by-page data of the image

information and modifies the ~~region~~ micro recognition signal read from the second memory section in compliance with the page-by-page data.

8. (Currently amended) The image processing apparatus according to claim 1, wherein the recognition signal modifying section establishes ~~the image~~ an image mode including at least character or photograph, and modifies the ~~region~~ micro recognition signal read from the second memory section in compliance with the established image mode.

9. (Currently amended) The image processing apparatus according to ~~claim 1~~ claim 8, wherein ~~the recognition signal modifying section establishes the image mode including character or photograph, and modifies the region recognition signal read from the second memory section in compliance with the established image mode,~~

~~and further~~ the improved picture quality modifying section reads out the image information which the first memory section stores and modifies ~~[[the]]~~ a color tone of the image information in compliance with the ~~region~~ micro recognition signal modified by the recognition signal modifying section.

10. (Currently amended) The image processing apparatus according to claim 1, wherein the improved picture quality modifying section reads out the image information which the first memory section stores and the ~~region~~ micro recognition signal modified by the recognition signal modifying section, compresses ~~these~~ and stores the image information and modified micro recognition signal in ~~the storage~~ a storage unit different from the ~~page~~ memory, further depresses and reads out ~~these~~ the image information and modified micro recognition signal, and modifies the image information in compliance with the ~~region~~ micro recognition signal modified by the recognition signal modifying section.

11. (Currently amended) The image processing apparatus according to claim 1, wherein the first memory section includes a memory section which compresses the image information, and stores ~~[[the]]~~ parameters for improved picture quality required after

depression as recording control signals associated with ~~[[the]]~~ a compressed image information in the ~~page~~ memory,

and the improved picture quality modifying section reads out the image information which the first memory section stores and the ~~region~~ micro recognition signal modified by the recognition signal modifying section, ~~compressing these and storing them~~ compresses and stores the image information and modified micro recognition signal in the storage ~~a storage~~ unit different from the ~~page~~ memory, ~~further depressing and reading them out~~ further depresses and reads out the image information and modified micro recognition signal, and ~~modifying~~ modifies the image information in compliance with at least either of the ~~region~~ micro recognition signal or the recording control signal modified by the recognition signal modifying section.

12. (Currently amended) The image processing apparatus according to claim 1, further comprising:

a micro recognition section which finds ~~[[the]]~~ a page-by-page feature amount of the image information and ~~recognizing~~ recognizes whether the image information is a white and black image or not in compliance with the feature amount;

a modifying section which modifies the ~~region~~ micro recognition signal stored in the second memory section in compliance with being the black and white image when the recognition section recognizes the image information as the black and white image; and

a color modifying section which transforms the image information into ~~[[the]]~~ a black and white image, and modifies and ~~outputting~~ outputs ~~the image~~ an image in compliance with the ~~region~~ micro recognition signal modified by the modifying section.

13. (Currently amended) The image processing apparatus according to claim 1, further comprising:

a micro recognition section which finds ~~[[the]]~~ a page-by-page feature amount of the image information and recognizes whether the image information is ~~white and black image~~ a black and white image or not in compliance with the feature amount;

a modifying section which transforms the region recognition signal stored in the second memory section into ~~the printing~~ a printing control signal when the recognition section recognizes the image information as ~~the black~~ a black and white image; and

a color modifying section which transforms the image information into ~~the black~~ a black and white image, and ~~modifying~~ modifies and outputs ~~the image~~ an image in compliance with the printing control signal transformed by the modifying section.

14. (Currently amended) The image processing apparatus according to claim 1, further comprising:

an external interface which transmits the micro recognition signal modified by the recognition signal modifying section and the image information modified by the improved picture quality modifying section to a plurality of ~~[[the]]~~ image forming ~~apparatus~~ apparatuses.

15-23. (Cancelled)

24. (New) The image processing apparatus according to claim 1, wherein the macro region recognition section recognizes a character section, a photograph section, and a screened halftone section of the image information.

25. (New) The image processing apparatus according to claim 16, wherein the macro region recognition section removes the screened halftone noise and emphasizes the characters at the screened halftone image section.